

# Table of Contents

## Session I

### *Tanks Panel Session*

**Thomas Gutmann, U.S. Department of Energy, Savannah River Operations Office**

Page 1

#### **Application of FWENC Stabilization Process to Enhance Treated Radioactive Sludge Leach Resistance in Surrogates and Actual Sludges**

*Roger D. Spence and John W. Barton, Oak Ridge National Laboratory* ..... 2

#### **In Situ Plasma Remediation of Underground Storage Tanks**

*Louis J. Circeo, Georgia Tech Research Institute* ..... 3

#### **In-Line Monitoring of Slurry Transport Properties**

*Tom Hylton, Oak Ridge National Laboratory* ..... 4

#### **Alternative HEPA Filter Media**

*Duane J. Adamson, Westinghouse Savannah River Site* ..... 5

#### **Overview of SRS Developed Remote Tank Technologies and Tools**

*Steven L. Tibrea, Westinghouse Savannah River Company* ..... 6

#### **Determination of Corrosion Species in High-level Nuclear wastes using Raman Spectroscopy**

*David T. Hobbs, Westinghouse Savannah River Company and J. M. Bello and R. W. Forney EIC Laboratories, Inc.* ..... 7

## Session II

### *Using Risk for Remedial Decisions Panel Session*

**Jerry Nelsen, U.S. Department of Energy, Savannah River Operations Office**

Page 9

#### **Human Health Risks Of Heat Stress Encountered During Remediation Activities**

*Wayne S. McKenna; Bob Galloway; and Paula J. Slavin, Sandia National Laboratories* ..... 10

#### **Successful Risk-Based Decision Making at Fort Campbell--A Model for Success**

*Dennis Miller, Advanced Infrastructure Management Technologies (AIMTech), Lockheed Martin Energy Systems* ..... 11

#### **Evaluation of Foodweb Modeling at the INEEL**

*Robin Lee VanHorn; Celeste Marsh; and Scott Perry, Idaho National Engineering and Environmental Laboratory* ..... 12

#### **Are We paying too Much to Reduce Radiological Risks?**

*Herbert Inhaber, Risk Concepts* ..... 13

#### **Evaluating the Behavior of Chlorinated Hydrocarbon Plumes in Ground Water Using Plume Population Studies**

*Walt W. McNab, Jr.; Richard Ragaini; and David W. Rice, Lawrence Livermore National Laboratory* ..... 14

#### **Successful Risk-Based Alternative Studies for the High-Level Waste and Facility Disposition EIS**

*A. Unione, Enercon Services, Inc.* ..... 15

## Session III

### *Sampling Panel Session*

**Phil Prater, U.S. Department of Energy, Savannah River Operations Office**

Page 17

#### **Well Redundancy Assessment with Geoscience and Geostatistics**

*Cary Tuckfield, Westinghouse Savannah River Company* ..... 18

#### **Using Cone Penetrometer Technologies to Characterize Radiological Waste Sites**

*Wes Bratton, Applied Research Associates, Inc.; Wilhelmina C. Dickerson, P.E., Applied Research Associates, Inc.; Jeff Johnson, IT Corporation* ..... 19

#### **Cost-Effective Sampling Using the EasyPump at LLNL**

*Greg Howard, Lawrence Livermore National Laboratory* ..... 20

#### **Validation of a Non-intrusive Characterization Technology at Ashtabula, Fernald and Oak Ridge**

*Dale Pflug, Argonne National Laboratory; Paula Kirk, Bechtel Jacobs; Michael Krstich EMS; Jeff Kulpa, RMIES Ashtabula site; Frank Miller, Fluor Daniel Fernald* ..... 21

#### **Accelerated Sampling and Analysis for Dioxins/Furans**

*Clarence Whitworth; Dan Battleson; John Montgomery; Roland Rees; and Ken Reick, MSE Technology Applications, Inc.* ..... 22

# Table of Contents

<b>Characterization of Under Building Contamination at Rocky Flats Environmental Technology Site using Horizontal Directional Drilling and Environmental Measurement while Drilling</b> <i>Annette Primrose, Kaiser Hill/Rocky Flats Environmental Technology Site; Tom Lindsay, RMRS; David Strand, Arcadia; Lane Butler, Kaiser Hill; and Norma Castaneda, DOE Rocky Flats Field Office</i> .....	23
--	----

<b>Session IV</b>	<i>Recycle and Reuse Panel Session</i> <i>Michael Gresalfi, Oak Ridge National Laboratory</i>	Page 25
-------------------	--	---------

No abstracts submitted for this session.

<b>Session V</b>	<i>Enhance Performance Through Collaboration Between Pollution Prevention Program and Office of Science and Technology</i> <i>John Lum, U.S. Department of Energy, Headquarters</i>	Page 27
------------------	--	---------

No abstracts submitted for this session.

<b>Session VI</b>	<i>SFCA in the 21st Century: Identifying Opportunities for Partnership and Progress</i> <i>Jim Wright, U.S. Department of Energy, Savannah River Operations Office</i>	Page 29
-------------------	---	---------

<b>THE Changing Nature of Site Needs</b> <i>A. Dale Pflug, Argonne National Laboratory, TechCon Program Manager</i> .....	30
<b>Meeting Future Needs through Technical Assistance</b> <i>Tom Hicks, SCFA DOE-Savannah River and Jack Corey, SCFA Lead Laboratory</i> .....	31
<b>Science Advancing Solutions into the 21st Century</b> <i>Mark Gilbertson, U.S. Department of Energy, Savannah River Operations Office and Chet Miller, U.S. Department of Energy, Headquarters</i> .....	32
<b>Identifying Opportunities for Applied Research</b> <i>Karen Cohen, U.S. Department of Energy, National Energy Technology Laboratory</i> .....	33

<b>Session VII</b>	<i>A STD: Building Partnerships for Success Panel Session</i> <i>Kurt Gerdes, U.S. Department of Energy, Headquarters</i>	Page 35
--------------------	--	---------

<b>Fernald's Experience Deploying In-Situ Gamma Spectrometry to Delineate Radionuclide-Contaminated Soils During Remediation</b> <i>Robert Janke, DOE-FEMP; R. Danahy; J. White; and J. D. Chiou, Fluor Fernald; M. J. Davis; R. Johnson; and K.C Picel, Argonne National Laboratory; K. Miller, U.S. Department of Energy, Environmental Measurements Laboratory; and M. Carpenter, Idaho National Engineering and Environmental Laboratory</i> .....	36
<b>Deployment of In Situ Measurement Techniques and the MARSSIM Process for Characterization of the Brookhaven Graphite Research Reactor</b> <i>Paul Kalb, Brookhaven National Laboratory; Larry Luckett, URS, Inc.; Carl Gogolak, DOE Environmental Measurements Laboratory; and Larry Millan, Brookhaven National Laboratory</i> .....	37
<b>Remediation of Plume Source Areas at Lawrence Livermore National Laboratory by Electroosmosis</b> <i>Walt W. McNab, Jr.; Steve Hunter; Tristan Pico; and Roberto Ruiz, Lawrence Livermore National Laboratory</i> .....	38
<b>Characterization Alternatives for the Old Cave at the DOE Miamisburg Environmental Management Project</b> <i>Michael A. Krstich; Doug Maynor; Don Krause; and Dale Pflug, EMS - TechCon</i> .....	39
<b>Operation of an In-Well Air Stripping System at BNL</b> <i>Vincent Racaniello, Brookhaven National Laboratory</i> .....	40
<b>Effective Pollution Prevention at SRS through Purge Water Management and Aqueous Waste Minimization</b> <i>Cary Tuckfield, Westinghouse Savannah River Company</i> .....	41

# Table of Contents

## Session VIII

### *Cost Engineering Session*

*Bryan Skokan, U.S. Department of Energy, Headquarters*

Page 43

No abstracts submitted for this session.

## Session IX

### *Vadose Zone Panel Session*

*Skip Chamberlain, U.S. Department of Energy, Headquarters*

Page 45

#### **The DOE Complex-Wide Vadose Zone Science and Technology Roadmap**

*Daniel B. Stephens, Daniel B. Stephens and Associates; Stephen J. Kowall, INEEL; David Borns, Sandia National Laboratory; Darwin Ellis, Schlumberger; Carl Enfield, U.S. Environmental Protection Agency; Lorne Everett, ARCADIS Geraghty & Miller; Martinus T. Van Genuchten, U.S. Department of Agriculture; Frank Parker, Vanderbilt University; Cathy Vogel, DoD SERDP/ESTCP; Edwin Weeks, U.S. Geological Survey; and John Wilson, New Mexico Institute of Mining and Technology ..... 46*

#### **Vadose Zone Science and Technology Solutions: "The Book"**

*Brian B. Looney and T.J. French Sr., Savannah River Technology Center; R. W. Faltz, Clemson University ..... 47*

#### **Innovative Vadose Zone Modeling Software Development at the Savannah River Site**

*Gregory G. Rucker, Site Geotechnical Services, Projects, Engineering and Construction Department, Savannah River Site ..... 48*

#### **Evaluation of the Savannah River Site Vadose Zone Monitoring System Program**

*Heather Holmes-Burns, BNFL-Savannah River Company ..... 49*

#### **Cost-Effective Method of Determining Shallow Radionuclide Activities**

*John April; K. Bergstrom; T. Mitchell; R. Randall; R. Price; D. DuVon; and S. Petersen, Bechtel Hanford, Inc. .... 50*

#### **Fissures in Yucca Dry Lake Bed, Nevada Test Site, U.S.A.**

*Donald C. Helm, Morgan State University ..... 51*

#### **Development and Implementation of a High Rate Logging System at Hanford Tank Farms**

*R.G. McCain, J. Berwick, C.J. Koizumi, and J.F. Bertsch, Grand Junction Office ..... 52*

## Session X

### *Project Management/Value Engineering Panel Session*

*Tom Tregor, U.S. Department of Energy, Savannah River*

Page 53

#### **Critical to Systematic Stewardship Project Management**

*Richard Woodward, Lawrence Livermore National Laboratory ..... 54*

#### **Experiences and Strategies for using DOE Technical Assistance Resources**

*Dale Pflug, Argonne National Laboratory; Jack Corey, Savannah River Technology Center; and Dr. Malcolm Siegel, Sandia National Laboratory ..... 55*

#### **Guaranteed Remediation: An Innovative Approach to Environmental Cleanup and Site Closure**

*Mark Nickelson, Advanced Infrastructure Management Technologies (AIMTech), Lockheed Martin Energy Systems, Inc. .... 56*

#### **Combining Technology and P2 for Cost Savings at Multiple Sites**

*Richard Govers, Chamberlain Group and Doug Maynor, DOE OH ..... 57*

#### **Uranium Management Group Activities**

*J. Dale Jackson, Office of Uranium and Engineering Services ..... 58*

#### **Cost Savings through Software Development for Release Site and Facility Management**

*Loretta M. Visconti and Kris Andersen, RCS Corporation ..... 59*

#### **Achieving Cost-Effective Cleanup Using "Green" Environmental Restoration Technologies**

*John P. Ziagos and Rolf U. Halden, Lawrence Livermore National Laboratory ..... 60*

# Table of Contents

## Session XI *Stewardship: Policy and Program Perspectives Panel Session* *Michael Barainca, U.S. Department of Energy, Headquarters* Page 61

### Results of the NDAA Long-Term Stewardship Report to Congress

*Janet Bashaw; Meg Reynolds; Kyle Tanger; and Joanna Wilson, Project Performance Corporation and Jonathan Kang, DOE Headquarters* ..... 62

### Long-Term Stewardship - A State Perspective

*Cain Diehl and Dr. Gerald R. Hill, Southern States Energy Board* ..... 63

### The Question of Long-Term Stewardship Responsibilities at Facilities with Continuing Non-EM Operations

*Deborah D. Griswold, Albuquerque Operations Office and George Allen, Sandia National Laboratories* ..... 64

### The Draft Long-term Stewardship Study

*Robert E. Hegner, Ph.D. and Steven Livingstone, ICF Consulting* ..... 65

### National Science and Technology Needs and Applications for Long-Term Stewardship

*Roger Mayes; Jacob Dustin; Greg Frandsen; and Paul Kearns, Idaho National Engineering and Environmental Laboratory* ..... 66

### Long-Term Performance: Subsurface Contaminants Focus Area Activities, Functional Applications for the Long-term Stewardship Program

*Scott McMullin, U.S. Department of Energy and Michael G. Serrato, WSRC/SRTC* ..... 67

## Session XII *SCFA : Natural Remediation Process: Lessons Learned through Research, Development, and Application* *Scott McMullin, U.S. Department of Energy, Savannah River Operations Office* Page 69

### Phytoremediation to Target VOCs and Tritium at depths at Argonne National Laboratory

*M. Cristina Negri, Ray R. Hinchman, John Quinn, James B. Wozniak, Larry Moos, Argonne National Laboratory, Argonne, Illinois, and Edward E. Gatliff, Applied Natural Sciences, Inc., Hamilton, Ohio* ..... 70

### BioRemediation: The hope and the Hype

*Dr. Terry C. Hazen, Head, Center for Environmental Biotechnology, Lawrence Berkeley National Laboratory* ..... 71

### Natural Analogs of Long-Term Engineered Covers

*William J. (Jody) Waugh, MACTEC-ERS, Grand Junction* ..... 72

## Session XIII *FRA MES Demonstration Session* *Paul Beam, U.S. Department of Energy, Headquarters* Page 73

No abstracts submitted for this session.

## Session XIV *Overcoming Barriers to Long-Term Monitory Technology Development* *Cary Tuckfield, Westinghouse Savannah River Company* Page 75

No abstracts submitted for this session.

## Session XV *ITRD Panel Session* *Malcolm Siegel, Sandia National Laboratories* Page 77

### The Innovative Treatment Remediation Demonstration (ITRD) Program: Overview of Goals and Accomplishments in FY2000

*Malcolm Siegel and Michael Hightower, Sandia National Laboratories; Tom Hicks, Department of Energy SR/SCFA; Thomas Crandall and Paul Beam, Department of Energy Headquarters* ..... 78

# Table of Contents

<b>The Innovative Treatment Remediation Demonstration Program at the Paducah Gaseous Diffusion Plant</b> <i>John Sheppard, U.S. DOE Paducah, KY; Gary Bodenstein and Jim Wright, USDOE; Mike Hightower and Malcolm Seigel, Sandia National Laboratories</i>	79
<b>Paducah Groundwater ITRD</b> <i>Wu-Ching Cheng, Michael Hightower, and Malcolm Siegel, Sandia National Laboratories; Gary Bodenstein and John Sheppard, DOE/Paducah; and Walt Richards, Science Applications International Corporation</i>	80
<b>Combination Air/Sparge Soil Vapor Extraction System at the Mound OU-1 Site</b> <i>Gary S. Brown, Ph.D., Sandia National Laboratories and Mark Spivey, Babcock and Wilcox of Ohio</i>	81
<b>ITRD Explosives Project at Pantex and LANL</b> <i>James M. Phelan, Sandia National Laboratories; J. Childress, Pantex; and D. Hickmott, Los Alamos National Laboratory</i>	82
<b>Assessment of Carbon Tetrachloride Plume Transport and Attenuation for the Hanford Innovative Technology Remediation Demonstration Project</b> <i>Michael J. Truex; Charlie Cole; Christopher Murray; Rick Cameron; and Christian Johnson, Pacific Northwest National Laboratory; Scott Petersen, Bechtel Hanford Inc.; and Arlene Tortoso, U.S. Department of Energy, Richland Operations Office</i>	83
<b>Hanford 100N Area ITRD Project</b> <i>Cecelia V. Williams and Malcolm Siegel, Sandia National Laboratories; Atlene Tortoso, DOE Richland Operations office; and Scott Peterson, Bechtel Hanford, Inc.</i>	84

## Session XVI

### GIS Panel Session

**Russ Beckmeyer, Westinghouse Savannah River Company**

Page 85

<b>Meeting Users' Needs: Practical Integration of GIS</b> <i>Russell R. Beckmeyer, Westinghouse Savannah River Company</i>	86
<b>GIS Considerations for Closure</b> <i>Denise Bleakly, Sandia National Laboratories</i>	87
<b>Soils Geochemistry Analysis with ArcView Geographic Information Systems (GIS) Software</b> <i>James S. Bollinger, Westinghouse Savannah River Company</i>	88
<b>The Emergency Communication Network (ECN) GIS Facility Mapping Project</b> <i>Al Guber; J. Russ Coffey; and Robert Noto, Bechtel Nevada - DOE Remote Sensing Laboratory</i>	89
<b>GIS Management of Waste Units at the Savannah River Site</b> <i>Larry D. Koffman and Steve Hevel, Westinghouse Savannah River Company</i>	90
<b>GIS Applications for Watershed Risk Analysis and Data Needs Evaluations</b> <i>Tracy J. McLane; Gerald McLane; and Susan Dyer, Site Geotechnical Services (EA3A0), PE&amp;CD, Savannah River Site</i>	91

## Session XVII

### Long Term Stewardship: Lessons Learned Panel Session

**Brian Bowser, U.S. Department of Energy, Idaho Operations Office**

Page 93

<b>Composite Analysis - The Right Tool for the Long-Term Stewardship Job</b> <i>James R. Cook and Elmer L. Wilhite, Savannah River Technology Center</i>	94
<b>Institutional Controls for Remediated Sites—An INEEL Case Study on Long Term Stewardship</b> <i>Deborah Wiggins; Jacob D. Dustin; Patty Natoni; and Bryan Bowser, Idaho National Engineering and Environmental Laboratory</i>	95
<b>State of the Art of Long-Term Stewardship, a Holistic Approach</b> <i>Art W. Kleinrath, DOE-Grand Junction Office and Mark Plessinger, MACTEC-ERS, Grand Junction Office</i>	96
<b>Risk, Information, and Long-Term Stewardship Decision Processes</b> <i>Elizabeth K. Hocking, S. Y. Chen, Robert L. Johnson, and John D. Ditmars; Argonne National Laboratory</i>	97
<b>LLNL ER Stewardship Model: Coupling Science, Engineering and Cost</b> <i>Richard Woodward and Zafer Demir, Lawrence Livermore National Laboratory</i>	98
<b>Lessons Learned with Long-Term Stewardship at Nevada Operations Office Sites/Performance Assessments</b> <i>John Jones, U.S. Department of Energy, Nevada Operations Office</i>	99
<b>Lessons Learned with Long Term Stewardship Measurements</b> <i>Ralph Skinner, U.S. Department of Energy, Oak Ridge Operations Office</i>	100



# Table of Contents

## Session XVIII

### *Regulator/Stakeholder Panel Session*

**Brian Hennessey, U.S. Department of Energy, Savannah River Operation Office** Page 101

<b>Multi-Dimensional Perspectives for Communicating Data - Communicating Environmental Data to the General Community</b> <i>Daryl Green and Teresa Perry, U.S. Department of Energy, Oak Ridge Operations Office</i> .....	102
<b>Stakeholder Involvement in Long-Term Stewardship through Systems Dynamics and Group Model Building</b> <i>Jacob J. Jacobson, Idaho National Engineering and Environmental Laboratory</i> .....	103
<b>Stakeholder Involvement in Development of Budget Request</b> <i>Kevin J. Rohrer, U.S. Department of Energy Nevada, Office of Environmental Management</i> .....	104
<b>Public Involvement Challenges Ahead for the INEEL Environmental Restoration Program</b> <i>Erik Simpson, Idaho National Engineering and Environmental Laboratory</i> .....	105
<b>Use of the Internet to Effectively Communicate with Stakeholders</b> <i>Helen Stolz and Ralph Smiecinski, PAI/DOE/NV</i> .....	106

## Session XIX

### *Emerging Waste Management Practices Panel Session*

**Mildred Keith, U.S. Department of Energy, Savannah River Operation Office** Page 107

<b>Completion of Transuranic Waste Drum Retrieval and Venting Operations at Savannah River Site</b> <i>Michael E. Brennan, Solid Waste Division, Westinghouse Savannah River Company</i> .....	108
<b>Emerging Remediation Treatment for Organics and TRU</b> <i>Larry McNamara and Dr. Louis Centofanti, Perma-Fix Environmental Services, Inc.</i> .....	109
<b>Application of Lessons Learned in Assuring Future Success of the ORR EMWMF</b> <i>J. Pat Hopper and Paul Corpstein, Waste Management Federal Services; Joe Williams, Bechtel Jacobs Company, LLC</i> .....	110
<b>Waste Maximization</b> <i>Kenneth M. Grumski, MHF Logistical Solutions Inc.</i> .....	111
<b>Disposition of Nuclear Weapon Components Generated by Remedial Activities</b> <i>Bob Galloway and Paula J. Slavin, SNL/NM Dept. 6133</i> .....	112
<b>Chemical Reactions in Liquids Induced by High Frequency Electric Fields</b> <i>Alexander Babchin; Jian-Yang Yuan; Haibo Huang; Richard McFarlane; and Eddy Isaacs, Alberta Research Council</i> .....	113

## Session XX

### *Ground Water Panel Session*

**Chet Miller, U.S. Department of Energy, Headquarters** Page 115

<b>A Strategic Approach for Deploying Bioremediation at DOE Oak Ridge for Treatment of DNAPL in Fracture Bedrock and CCl<sub>4</sub> in Ground Water</b> <i>Michael A. Krstich; Dale Pflug; Mike Kelly; Janice Hensley; and Tony Manion, EMS - TechCon</i> .....	116
<b>Phytoremediation Identified as Cost Effective, Preferred Technology At Monument Valley, Arizona, UMTRA Ground Water Site</b> <i>Ken Karp; MACTEC-ERS -DOE Grand Junction Office</i> .....	117
<b>Economical and Reusable Ground Water Treatment Solutions Developed at LLNL</b> <i>Robert W. Bainer; Edwin Folsom; Larry Kita; and Roberto Ruiz, Lawrence Livermore National Laboratory</i> .....	118
<b>Aerobic Non-toxic Cometabolism of Trichloroethylene in Ground Water: A Case Study</b> <i>Robert S. Donofrio, M.S., BioRemedial Technologies, Incorporated and Ronald M. Seech, MLT (ASCP)</i> .....	119
<b>Operation Status of Reactive Barriers at Rocky Flats Environmental Technology Site</b> <i>Annette Primrose; Lane Butler; and Norma Castaneda, Kaiser Hill/Rocky Flats Environmental Technology Site</i> .....	120
<b>Removing Uranium From Contaminated Groundwater At Fernald Using Ion Exchange Technology</b> <i>Chris Sutton, Ph.D., Cathy Glassmeyer, and Steve Bozich, Fluor Fernald, Inc.</i> .....	121

# Table of Contents

## Session XXI

### *SRS Facility Disposition Program Session*

*Angela Adams, U.S. Department of Energy, Savannah River Operations Office and  
Andrew Szilagyi, U.S. Department of Energy, Headquarters*

Page 123

#### **How to Succeed on a Fixed Budget**

*David Yannitell, Westinghouse Savannah River Company, LLC* ..... 124

#### **Facility Transition Process at SRS**

*Richard Garniewicz, Westinghouse Savannah River Company, LLC* ..... 125

#### **Reducing Cost of Surveillance and Maintenance (S&M) Programs**

*Caroline Bruns, Westinghouse Savannah River Company, LLC* ..... 126

#### **Risk-Based Method for Prioritizing Hazard Reduction Activities at Inactive Facilities**

*Victor Fricke and Gary Rose, Westinghouse Savannah River Company, LLC* ..... 127

#### **Deactivation of 321-M Fuel Fabrication Facility**

*Marley Bruns, Westinghouse Savannah River Company, LLC* ..... 128

#### **Decision Process for the Decommissioning of the R-Disassembly Basin at SRS**

*William Austin; John B. Pickett; Heatherly H. Dukes; Karl D. Tesch; and Jerry Hansen, Westinghouse Savannah River Company, LLC* ..... 129

#### **Clean-up of R Disassembly Basin at SRS**

*John Pickett and Heatherly Dukes, Westinghouse Savannah River Company, LLC* ..... 130

#### **Assett for Dismantle and Removal Services**

*Thomas Feske, Westinghouse Savannah River Company, LLC* ..... 131

#### **Disposition Technologies**

*Jeff Lee and Bill Giddings, Westinghouse Savannah River Company, LLC* ..... 132

#### **Long Range Facility Disposition Planning**

*Melanie Poe-Hozey, Westinghouse Savannah River Company, LLC* ..... 133

## Session XXII

### *Innovative Remedial Technologies I nteractive Poster Session*

*Hap Thron, U.S. Department of Energy, Headquarters*

Page 135

#### **FY2000 Technology Deployments on the Richland Environmental Restoration Project**

*Kim Koegler, Bechtel Hanford Inc.* ..... 136

#### **Performance Assessment of In-Situ Remediation involving DNAPL Removal**

*Richard Jackson; John Ewing; Minquan Jin; and Hans Meinardus, Duke Engineering & Services* ..... 137

#### **Remediation of Ecologically Sensitive Wetlands Contaminated with Cs-137 Using Micaceous Minerals**

*Daniel I. Kaplan; Tom Hinton; Anna Knox; and Steve Serkiz, Westinghouse Savannah River Company* ..... 138

#### **EarthSaw Field Demo: Construction of a Bottom Barrier with Soft Buoyant Grout**

*Ernest E. Carter, P.E. Carter Technologies Co. and John Livezey, Federal Industrial Products* ..... 139

#### **Petrobond® Oil Solidification Polymer: Helping solve oil waste problems in the DOE complex**

*Donald R. Krause, BWXT Services, Inc.; Ward Brunkow, The Chamberlain Group, Inc.; and Dennis Campbell, Nochar, Inc.* ..... 140

#### **Integrated Characterization of a TCE Contaminant Plume within a Basalt Aquifer**

*Katherine Owens; Leland (Roy) Mink; and Allan Wylie, University of Idaho, Idaho Water Resources Research Institute* ..... 141

#### **Dynamic Underground Stripping and Hydrous Pyrolysis/Oxidation of PCE and TCE at Savannah River Site**

*Dave Parkinson and Norm Brown, Integrated Water Technologies, Inc.* ..... 142

# Table of Contents

## Posters

Page 143

<b>Revolutionary Monitoring Systems for Long-term Environmental Stewardship Applications</b> <i>George C. Allen, Jr.; Wendy S. Cieslak; Dan Horschel; Erik K. Webb; Sandia National Laboratories</i>	144
<b>DOE-Mound Multi-Site Deployment of WaterWorks Crystals® Aqueous Waste Solidification Technology</b> <i>Scott Altmayer, Earthline Technologies; Dick Govers, The Chamberlain Group; and Don Krause, B&amp;W Services</i>	145
<b>Can Pedotransfer Models be used to Characterize Unsaturated Hydraulic Properties in Geologic Materials?</b> <i>Kristine E. Baker, Idaho National Engineering and Environmental Laboratory; R.J. Glass and R.M. Holt, Sandia National Laboratories</i>	146
<b>Facilitating Site Closure and Transition to Stewardship</b> <i>Janet Bashaw; Gaynor Dawson; and Steve Meador, Project Performance Corporation and Marc Jones, U.S. Department of Energy, Headquarters</i>	147
<b>Traceability of Performance Evaluation Materials for Long Term Stewardship Measurements</b> <i>Raymond J. Bath Ph.D.; Pamela Greenlaw; and Anna Berne Ph.D., US DOE/Environmental Measurements Laboratory</i>	148
<b>New ER Additives that Stabilize Heavy Metals; Cheaper, Faster, Better, and Safer</b> <i>Gary Benda, U.S. Energy Corporation; and Charlie Williams, E &amp; C Williams</i>	149
<b>Integrated Decision Analysis Tools for Land and Watershed Management</b> <i>Robert P. Breckenridge; Ronald C. Rope; and Randy D. Lee, Idaho National Engineering and Environmental Laboratory</i>	150
<b>Intergovernmental Data Quality</b> <i>Mike Carter, U.S. Environmental Protection Agency</i>	151
<b>Progress of Catalytic Oxidation and RCRA Delisting Petition of Tritiated Mixed Waste</b> <i>Li-Yang Chang, Chit Than, Hiromi Morimoto, and Philip G. Williams, Lawrence Berkeley National Laboratory</i>	152
<b>Performance Assessment and Design Considerations Relative to Long-Term Stewardship</b> <i>Gaynor Dawson; Janet Bashaw; and James Werner, Project Performance Corporation</i>	153
<b>The INEEL Vadose Zone Science and Technology Roadmap: Identifying the R&amp;D Needed to Support Site Cleanup and Stewardship</b> <i>Brent W. Dixon and Alan K. Yonk, Idaho National Engineering and Environmental Laboratory</i>	154
<b>GeoTracker: A Case Study in Building an Internet Accessible Environmental Data Integration Tool</b> <i>Brendan P. Dooher; Anne M. Happel; and Michael J. Legg, Lawrence Livermore National Laboratory</i>	155
<b>Direct Disposal of PCB-Radioactive and PCB-Mixed Wastes</b> <i>Andrew E. Drom, Envirocare of Utah, Inc.</i>	156
<b>Environmental remediation, Worker Safety, and Land Stewardship at the Rocky Flats Environmental Test Site: Striking an Ethical Balance</b> <i>M. Edelson; M. Svatos; R. Thompson; V. Burnett; L. Manion; and L. Sweeney, Ames Laboratory</i>	157
<b>Establishing a Cost-Estimating System for DOE's Long-Term Stewardship Program</b> <i>Joseph English and Peter Dahling, Project Performance Corporation</i>	158
<b>Deployment of an Alternative Closure Cover and Monitoring System for Corrective Action Units in Nevada</b> <i>Thomas M. Fitzmaurice and Daniel G. Levitt, Bechtel Nevada</i>	159
<b>Tank 19 Folding Crawler</b> <i>Robert Fogle and Thomas Nance, Westinghouse Savannah River Company</i>	160
<b>An Evaluation of Current Operation and Maintenance Guidance and Activities</b> <i>Jennifer Fryer; Robin VanHorn; and Amadeo Ramos, Bechtel BWXT, Idaho National Engineering and Environmental Laboratory</i>	161
<b>Stakeholder Interaction: Public Endorsement of LLW Disposal in Trenches Instead of More Robust Vaults</b> <i>W. T. Goldston, Westinghouse Savannah River Company</i>	162
<b>Automated Data Acquisition Systems for Stewardship and/or Remote Field Measurement, Monitoring, Control, and Telemetry</b> <i>Wesley Goodwin, Geomation, Inc.</i>	163



# Table of Contents

<b>Preliminary Results of Wetlands Natural Attenuation Monitoring for TCE at the Savannah River Site</b> <i>Blake E. Hart; Jeff Ros; Gregory B. Rucker; Phillip Albenesius; Jerry Nelsen; Gary Mills; and John B. Williams, Bechtel Savannah River Company</i>	164
<b>Validation of the Local SRS Coordinate System</b> <i>David M. Isiminger, Jr.; Scott McMullin; Bruce Reeves; and Larry Koffman, WSRC/Environmental &amp; Geographical Information Systems (E&amp;GIS)</i>	165
<b>Application of Polyurea to Prevent Moisture Infiltration at Interim Action Soil Site</b> <i>Peggy Jessmore and Michelle Kaptein, BBWI</i>	166
<b>GWRTAC's "Groundwater Central®": Portal to Groundwater Information on the Web</b> <i>Dawn S. Kaback, PhD and Diane Roote, GWRTAC/CTC; Grover Chamberlain, U.S. Department of Energy</i>	167
<b>To Purge - or Not to Purge Is there really any question?</b> <i>Thomas Wayne Kabis, SIBAK Industries Limited, Inc.</i>	168
<b>Deployment of Multiple Waste Technologies To Optimize Overall Remediation Objectives</b> <i>Mr. Jeffrey Kulpa, Earthline Technologies</i>	169
<b>Back to the Future: Using GIS Technologies and Historical Photography to Support Waste Site Characterization and Remediation</b> <i>Halkard E. Mackey, Jr., Westinghouse Savannah River Company</i>	170
<b>Technology Safety Data Sheets: A Tool to Protect Workers from the Hazards of Environmental Clean-Up Technologies</b> <i>Barbara McCabe, Operating Engineers National Hazmat Program and Bruce Lippy, CIH, CSP</i>	171
<b>A Cost-Effective Approach to Multi-Parameter Hydrologic Monitoring to Characterize Ground Water Flow Conditions</b> <i>Katherine Monks, Tetra Tech EM Inc. and Mike Godwin, Morrison Knudsen Corporation</i>	172
<b>Sodium Recycling Utilizing Wet-Vapor-Nitrogen Processes</b> <i>Roger M. Moore and Earl Peterson, Boeing Rocketdyne and John Engott, Safety-Kleen</i>	173
<b>Separation and Concentration of Actinides in Natural Waters Using a Magnetic Filtration/Sorption Process</b> <i>James D. Navratil; Alena Paulenova; and Timothy A. DeVol, Clemson University</i>	174
<b>New Materials and Matrices for Immobilization of Transuranium Wastes</b> <i>Alexei K. Pikaev, Institute of Physical Chemistry of Russian Academy of Sciences</i>	175
<b>GIS Projects for Environmental Restoration at the Savannah River Site</b> <i>Tracy Rea, Bechtel Savannah River, Inc. and David Nix, Westinghouse Savannah River Company</i>	176
<b>"LandTrek" Your Land Transfer/Reuse Website</b> <i>Jon Sink and Henry J. Nachtsheim, III, US Department of Energy, Grand Junction Office</i>	177
<b>SRS Environmental Restoration Engineering &amp; Technology</b> <i>Ahmet Suer, Bechtel Savannah River</i>	178
<b>SRS Site Technology Coordination Group</b> <i>Ahmet Suer, Bechtel Savannah River and Sherri Robinson, Department of Energy</i>	179
<b>Historically Black Colleges and Universities Program at SRS</b> <i>Ahmet Suer, Bechtel Savannah River and Tania Smith, Department of Energy</i>	180
<b>The WasteoScope: An ArcView Application for Categorizing Buried Waste At Idaho National Engineering Laboratory</b> <i>Luke White; Bruce Becker; Larry Slate; and Clem Potelumas, BBWXTI, Inc.</i>	181
<b>Remediation of Radiologically Contaminated Sites at Waste Area Group 2 OU 2-13</b> <i>Deborah Wiggins, Bechtel Babcock and Wilcox Idaho</i>	182